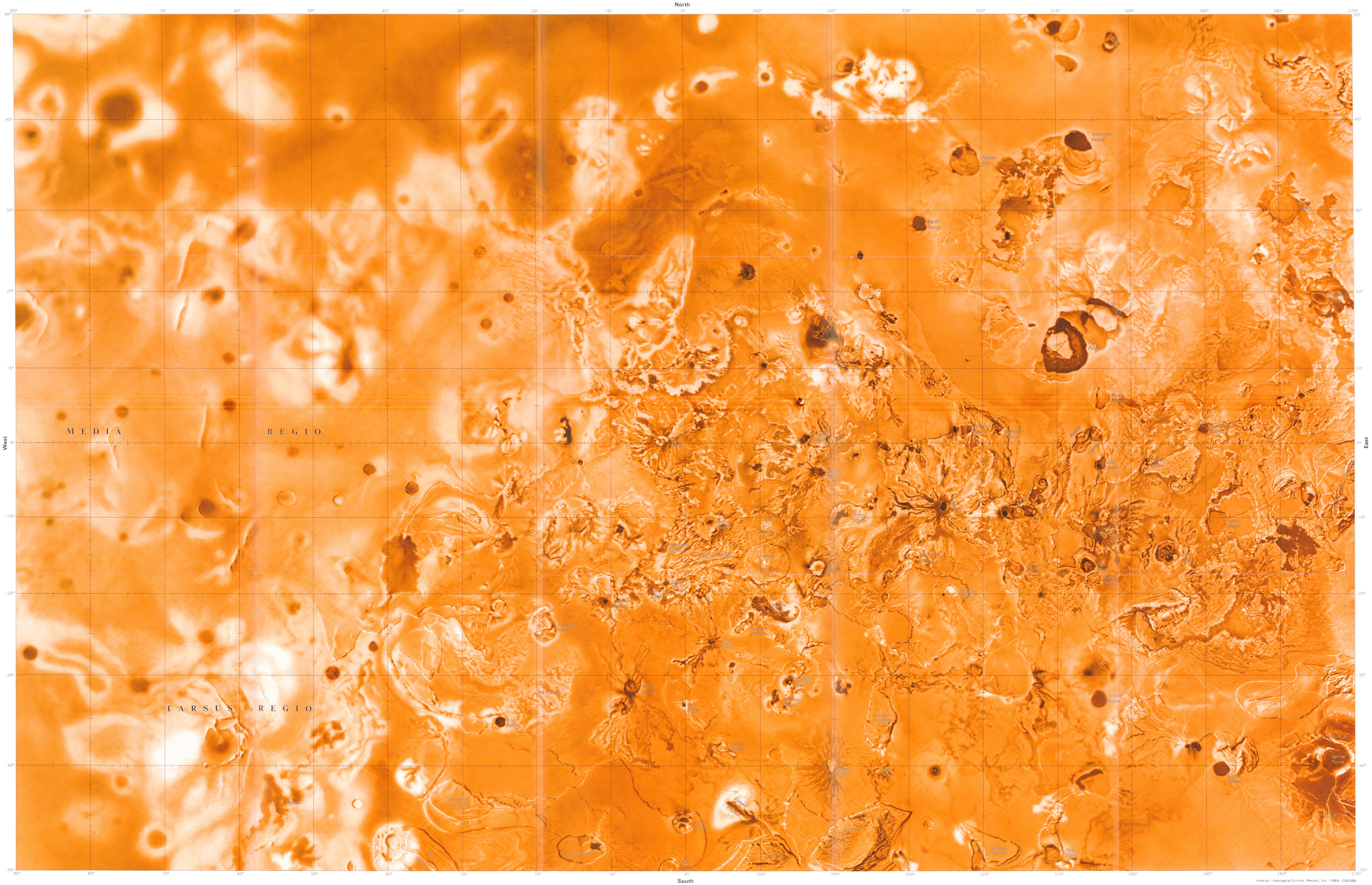
DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

Prepared for the
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

ATLAS OF JOVIAN SATELLITES
1:5,000,000 TOPOGRAPHIC SERIES
RUWA PATERA REGION – IO
Ji 5M 0/0 AN, 1984
I-1491 (Ji-2) SHEET 1 OF 2


North
South
West
East
MEDIA REGIO
TARSUS REGIO
Surt
Amaterasu Patera
Manua Patera
Fuchi Patera
Ātar Patera
Daedalus Patera
Loki
Loki Patera
Khalla Patera
Ruwa Patera
Nyambe Patera
Tol-ava Patera
Carancho Patera
Reshet Catena
Hephaestus Patera
Sêd Patera
Purgine Patera
Dingir Patera
Ra Patera
Mazda Catena
Horus Patera
Mama Patera
Apis Tholus
Ilmarinen Patera
Tung Yo Fluctus
Inachus Tholus
Kava Patera
Hao Shen Patera
Kibero Patera
Galai Patera
Gibil Patera
Ninurta Patera
Mihr Patera
Podja Patera
Shoshu Patera
BOOSAULE MONTES
Tung Yo Patera
Sui Jen Patera
Angpetu Patera
Masaya Patera
Cataquil Patera
Vahagn Patera
Talos Patera
Mbali Patera
Uta Fluctus
Taw Patera
Uta Patera
Menahka Patera
Pautiwa Patera
IOPOLIS PLANUM
Lu Huo Patera
Maasaw Patera
Agni Patera
Sengen Patera
LYRCEA PLANUM
Babbar Patera
Ülgen Patera
Masubi
ETHIOPIA PLANUM
PAN MENSA
Euboea Fluctus
EUBOEA MONTES
Päive Patera
Kane Patera
Siun Patera
ARGOS PLANUM
Aten Patera

## NOTES ON BASE

This sheet is one in a series of maps that cover the surfaces of the Galilean satellites of Jupiter at a nominal scale of 1:5,000,000 (Batson and others, 1980). The source for the series was Voyager 1 and 2 images. Essential features of the mapping are noted below.

### CARTOGRAPHIC CONTROL

Mercator and polar stereographic projections used for the maps of Io are based on a sphere with a radius of 1816 km and a common scale of 1:4,268,000 at lats ±45°. Longitudes increase to the west in accordance with astronomical convention. Planimetric control was derived by photogrammetric triangulation using Voyager 1 and 2 pictures (Davies and Katayama, 1981). The meridians are numbered according to the ephemeris position of the prime meridian of Io (Davies and Katayama, 1981; IAU, 1980a).

### MAPPING TECHNIQUE

A series of mosaics of Voyager 1 and 2 pictures was assembled at 1:5,000,000 using projections described above. Sizes, shapes, and positions of features were taken from the base mosaic using portrayal and interpretation techniques described by Inge (1972) and Inge and Bridges (1976). Surface relief is shown as if illuminated from the west. Albedo markings are shown as they appear on the Voyager pictures. Extreme variations in picture resolution precluded consistent interpretation and portrayal of the pictures used for map compilation. Further limitations were imposed by dark albedo markings, which tend to obscure distinctive surface details.

The colors chosen for this map are intended to provide optimum discrimination of detail and do not necessarily represent the color of Io.

Image analysis and airbrush representation were made by Patricia M. Bridges.

### NOMENCLATURE

Names on this sheet are approved by the International Astronomical Union (IAU, 1977 and 1980b) except for the provisional names listed below.

Provisional names: Agni Patera, Angpetu Patera, Argos Planum, Carancho Patera, Cataquil Patera, Dingir Patera, Ethiopia Planum, Euboea Fluctus, Euboea Montes, Ilmarinen Patera, Iopolis Planum, Kava Patera, Khalla Patera, Lu Huo Patera, Lyrcea Planum, Mama Patera, Menahka Patera, Ninurta Patera, Päive Patera, Pan Mensa, Pautina Patera, Podja Patera, Purgine Patera, Reshet Catena, Sêd Patera, Siun Patera, Sui Jen Patera, Tol-ava Patera, Tung Yo Fluctus, Tung Yo Patera, and Uta Fluctus.

Ji 5M 0/0 AN: Abbreviation for Jupiter, Io (satellite): 1:5,000,000 series; center of sheet, lat 0°, long 0°; shaded relief with albedo markings (A), nomenclature (N).

Ji-2: Abbreviation for Jupiter, Io: sheet 2.

### REFERENCES

Batson, R. M., Bridges, P. M., Inge, J. L., Isbell, Christopher, Masursky, Harold, Strobell, M. E., and Tyner, R. L., 1980, Mapping the Galilean satellites of Jupiter with Voyager data: Photogrammetric Engineering and Remote Sensing, v. 46, no. 10, p. 1303-1312.

Davies, M. E., and Katayama, F. Y., 1981, Coordinates of features on the Galilean satellites: Journal of Geophysical Research, v. 86, no. A10, p. 8635-8657.

Inge, J. L., 1972, Principles of lunar illustration: Aeronautical Chart and Information Center Reference Publication RP-72-1, 60 p.

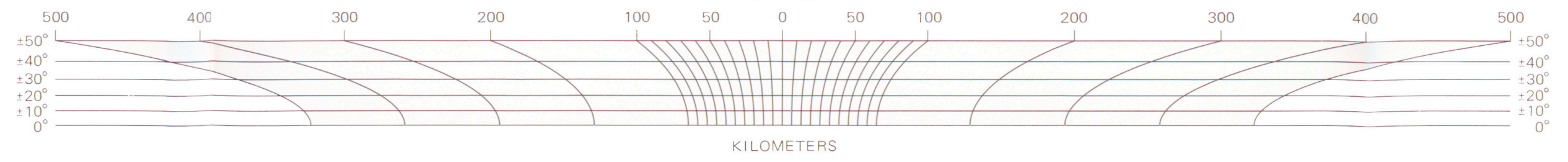
Inge, J. L., and Bridges, P. M., 1976, Applied photointerpretation for airbrush cartography: Photogrammetric Engineering and Remote Sensing, v. 42, no. 6, p. 749-760.

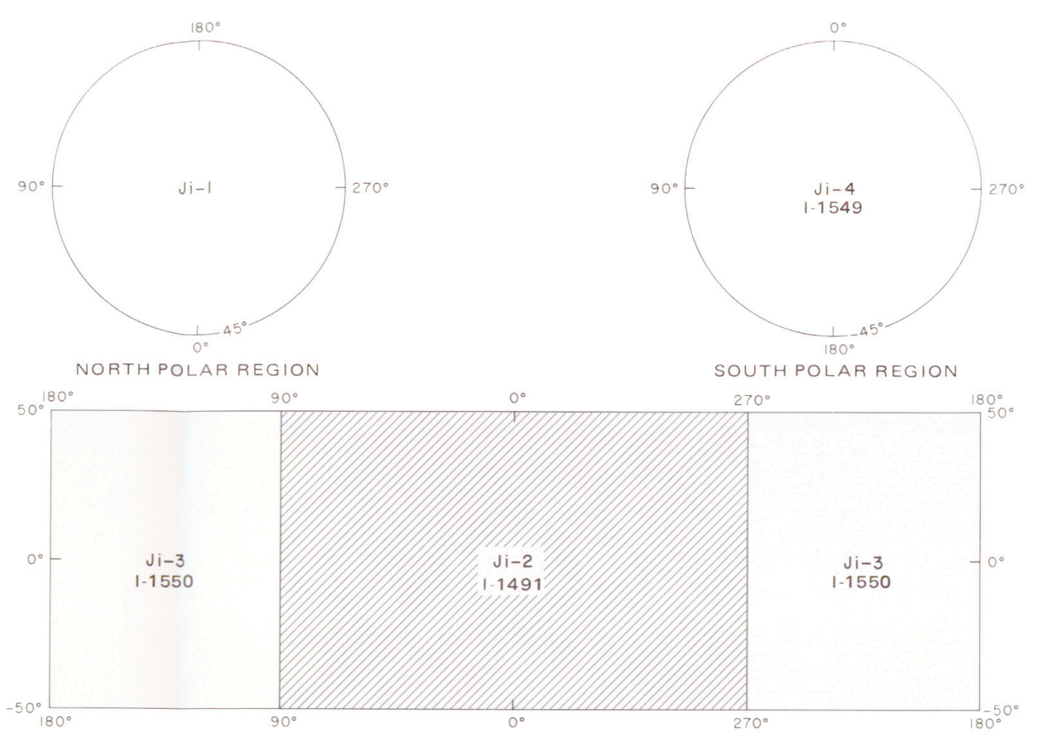
International Astronomical Union, 1977, Working Group for Planetary System Nomenclature, *in* 16th General Assembly, Grenoble, 1976, Proceedings: International Astronomical Union Transactions, v. 16B, p. 322-323.

____1980a, Commission 4: Ephemerides, *in* 17th General Assembly, Montreal, 1979, Proceedings: International Astronomical Union Transactions, v. 17B, p. 63-83.

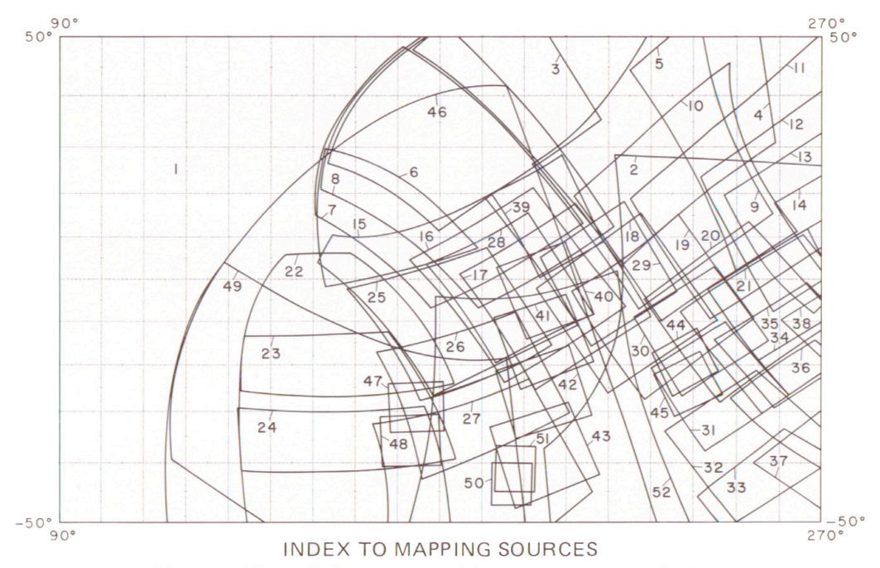
____1980b, Working Group for Planetary System Nomenclature, *in* 17th General Assembly, Montreal, 1979, Proceedings: International Astronomical Union Transactions, v. 17B, p. 297-304.

SCALE 1:5 000 000 (1 mm = 5 km) AT ±34° LATITUDE
MERCATOR PROJECTION


500
400
300
200
100
50
0
50
100
200
300
400
500
±50°
±40°
±30°
±20°
±10°
0°
KILOMETERS


180°
90°
Ji-1
270°
0°
45°
NORTH POLAR REGION
0°
90°
Ji-4
I-1549
270°
45°
180°
SOUTH POLAR REGION
180°
90°
0°
270°
180°
50°
Ji-3
I-1550
Ji-2
I-1491
Ji-3
I-1550
0°
-50°

QUADRANGLE LOCATION
Number preceded by I refers to published shaded relief map


90°
50°
270°
50°
-50°
90°
-50°
270°

INDEX TO MAPPING SOURCES

The rendition of features on this map was controlled by reference to the primary source pictures outlined above. Supplemental source images used during the compilation are listed separately. Copies of various enhancements of these pictures are available from National Space Science Data Center, Code 601, Goddard Space Flight Center, Greenbelt, MD 20771.

| VOYAGER 1 | | | | | | VOYAGER 2 |
|---|---|---|---|---|---|---|
| Primary Source | | | | Supplemental Source | | Supplemental Source |
| Index No. | Picture No. | Index No. | Picture No. | Picture No. | Picture No. | Picture No. |
| 1 | 92J1-1 | 27 | 75J1+0 | 168J1-2 | 77J1+0 | 954J2-2 |
| 2 | 1366J1-1 | 28 | 81J1+0 | 80J1-1 | 79J1+0 | 745J2-1 |
| 3 | 1773J1-1 | 29 | 93J1+0 | 82J1-1 | 82J1+0 | 17J2+0 |
| 4 | 1775J1-1 | 30 | 105J1+0 | 84J1-1 | 84J1+0 | 393J2+0 |
| 5 | 1783J1-1 | 31 | 107J1+0 | 88J1-1 | 86J1+0 | |
| 6 | 1793J1-1 | 32 | 109J1+0 | 973J1-1 | 101J1+0 | |
| 7 | 1J1+0 | 33 | 111J1+0 | 1109J1-1 | 113J1+0 | |
| 8 | 3J1+0 | 34 | 115J1+0 | 1111J1-1 | 127J1+0 | |
| 9 | 15J1+0 | 35 | 117J1+0 | 1113J1-1 | 134J1+0 | |
| 10 | 19J1+0 | 36 | 119J1+0 | 1368J1-1 | 142J1+0 | |
| 11 | 23J1+0 | 37 | 121J1+0 | 1374J1-1 | 144J1+0 | |
| 12 | 27J1+0 | 38 | 125J1+0 | 1376J1-1 | 150J1+0 | |
| 13 | 31J1+0 | 39 | 131J1+0 | 1382J1-1 | 171J1+0 | |
| 14 | 35J1+0 | 40 | 133J1+0 | 1384J1-1 | 173J1+0 | |
| 15 | 39J1+0 | 41 | 135J1+0 | 1392J1-1 | 175J1+0 | |
| 16 | 41J1+0 | 42 | 137J1+0 | 1779J1-1 | 179J1+0 | |
| 17 | 43J1+0 | 43 | 139J1+0 | 1781J1-1 | 194J1+0 | |
| 18 | 47J1+0 | 44 | 176J1+0 | 1787J1-1 | 196J1+0 | |
| 19 | 49J1+0 | 45 | 178J1+0 | 1789J1-1 | 198J1+0 | |
| 20 | 53J1+0 | 46 | 181J1+0 | 45J1+0 | 214J1+0 | |
| 21 | 55J1+0 | 47 | 182J1+0 | 51J1+0 | 230J1+0 | |
| 22 | 61J1+0 | 48 | 184J1+0 | 67J1+0 | 232J1+0 | |
| 23 | 63J1+0 | 49 | 192J1+0 | | | |
| 24 | 65J1+0 | 50 | 197J1+0 | | | |
| 25 | 71J1+0 | 51 | 199J1+0 | | | |
| 26 | 73J1+0 | 52 | 216J1+0 | | | |

# SHADED RELIEF AND SURFACE MARKINGS OF THE RUWA PATERA REGION OF IO

Ji-2

Ji 5M 0/0 AN

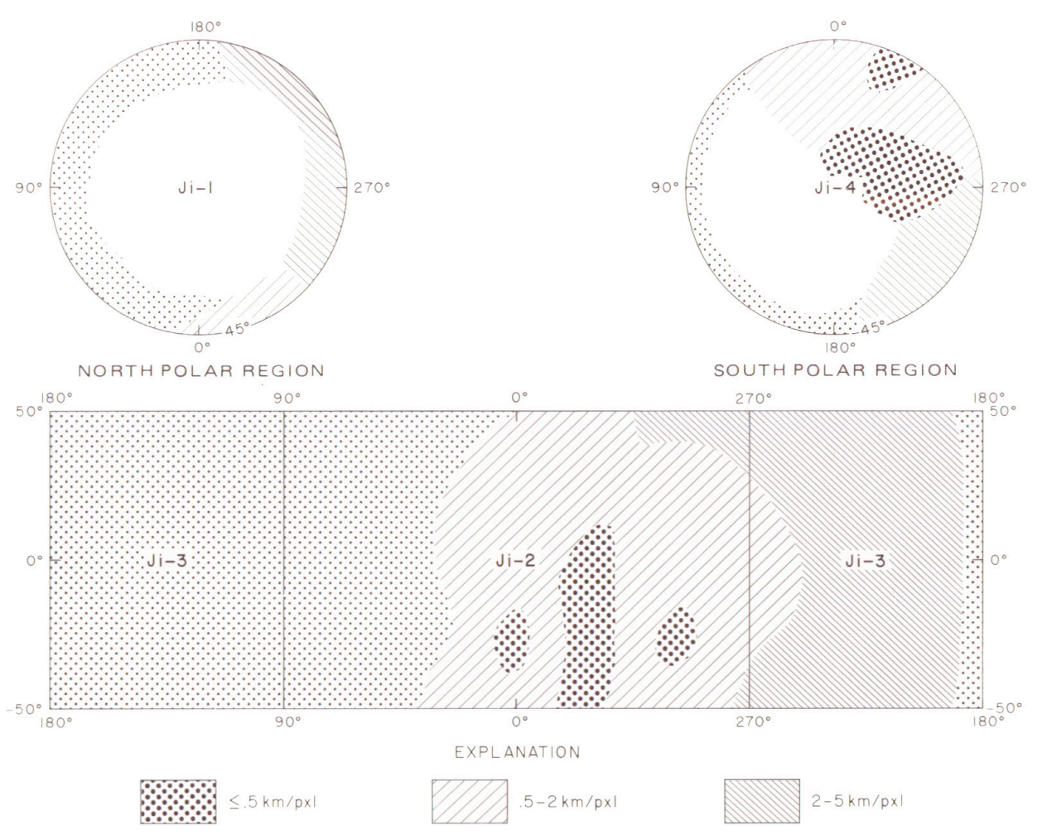
1984

NOTE TO USERS

Users noting errors or omissions are urged to indicate them on the map and to forward it to U.S. Geological Survey, Building 4, Room 454, 2255 North Gemini Drive, Flagstaff, Arizona 86001. A replacement copy will be returned.

Interior—Geological Survey, Reston, Va.—1984—G82388

Prepared on behalf of the Planetary Geology Program, Planetary Division, Office of Space Science, National Aeronautics and Space Administration under contract W-13,709


180°
90°
Ji-1
270°
45°
0°
NORTH POLAR REGION
0°
90°
Ji-4
270°
45°
180°
SOUTH POLAR REGION
180°
90°
0°
270°
180°
50°
Ji-3
Ji-2
Ji-3
0°
-50°

EXPLANATION

▩ ≤.5 km/pxl
▨ .5–2 km/pxl
▧ 2–5 km/pxl
░ 5–20 km/pxl
☐ >20 km/pxl

Approximate resolution of available Voyager images expressed as kilometers per picture element.

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